

PHYSICS

Experience Map



PROMISE
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University
of Windsor

PHYSICS **CO-OP**
AVAILABLE

PHYSICS WITH THESIS **CO-OP**
AVAILABLE

PHYSICS (PHYSICS AND HIGH TECHNOLOGY) **CO-OP**
AVAILABLE

PHYSICS (PHYSICS AND HIGH TECHNOLOGY) WITH THESIS **CO-OP**
AVAILABLE

PHYSICS (MEDICAL PHYSICS) **CO-OP**
AVAILABLE

PHYSICS (MEDICAL PHYSICS) WITH THESIS **CO-OP**
AVAILABLE

INTERDISCIPLINARY ARTS AND SCIENCE

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PHYSICS

SKILLS AND KNOWLEDGE OF PHYSICS GRADUATES

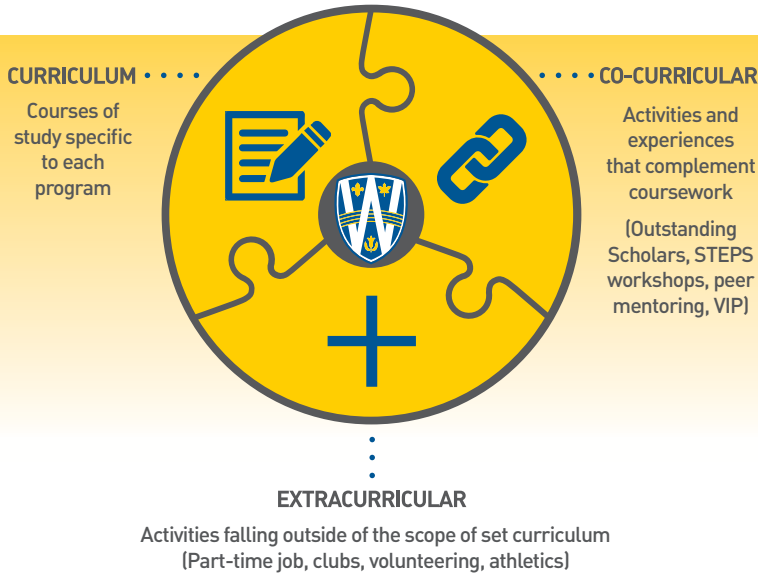
PROGRAM HIGHLIGHTS

- **Physics** – Learn how the universe works—from the fundamental forces of nature to their effects on matter and the environment around us. This program will ready you for leadership positions in both academic and industrial research in the Canadian high-technology industry. It may be taken with or without a thesis option.
- **Physics and High Technology** – This program is for you if you're interested in applying your physics training to the high-tech needs of society or if you're fascinated by science and technology but don't necessarily want to pursue a career as a scientist. It may be taken with or without a thesis option.
- **Medical Physics** – Learn about the application of physics' theories and technologies to the diagnosis and treatment of diseases in the human body, particularly cancer. This will prepare you for further studies in medical physics, a career as a certified medical physicist, or medical school.
- **Interdisciplinary Arts and Science** – If you're a highly motivated student who wants knowledge and skills that will familiarize you

with the humanities, social sciences and natural sciences, this elite program is for you. Design your program to match your interests and career aspirations. From here, consider a master's program, professional school (medicine, optometry, dentistry, occupational therapy, naturopathic medicine, law, MBA, pharmacy), or teaching (with additional studies).

FUNCTIONAL KNOWLEDGE

- Understanding the various properties, states, structures, and behaviours of matter to a high level
- Performing quantitative analyses involving mathematics and applied science and physics
- Applying computer analysis methods and algorithms
- Developing complex theoretical models to analyze specific behaviours and interactions
- Operating advanced scientific laboratory equipment and instruments
- Planning, conducting, recording, and presenting scientific research to a high degree of competency



BUILD YOUR SKILLS AND EXPERIENCE

Your UWindsor experience is more than attending classes. It is a combination of academics, co-curricular activities, and extracurricular involvement. By making the most of all three elements of your university experience, you will maximize your opportunities to build your skills, broaden your personal network, and clarify your long term academic and career goals.

CAREER PLANNING GUIDE

Intentional career planning will help you prepare for your next step after graduation. It is a fluid, dynamic, and continuous process, meaning you can move on or return to an earlier stage at any time. You can even work through simultaneous cycles, like one for your long-term dream job and another for a summer job.



Experience Map

HOW TO USE THIS GUIDE

This guide is meant to help you explore various opportunities throughout the course of your UWindsor experience. It is intended to help you link academics, co-curricular, extra-curricular and career planning activities by suggesting some of the options available to you. This is to help you see what you can do, rather than what you are required to do!

Academics



First Year

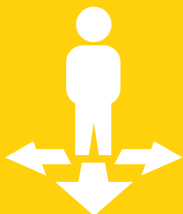
- Take required courses including Introduction to Physics I and II and General Chemistry I and II
- Review degree course requirements for all years of study
- Participate in our PASS program during Welcome Week to be provided with the skills necessary to be successful as a Science student
- Visit the Physics Resource Centre regarding any questions about your program
- Meet with an academic advisor such as the department head or program co-ordinator
- Receive peer mentorship from an upper-year MySci Advisor
- Attend Fall Introduction to the Department, as well as Meet the Professor Night

Experience



- Begin the process of becoming a LEAD Medallion Scholar and participate in credit and volunteer activities that provide you skills in **Leadership, Engagement, Application and Discovery***
- Explore co-op options and consider applying in fall of second year*
- **Apply** for a co-curricular experience such as the Volunteer Internship Program (VIP)*
- Be **Engaged** by volunteering in a lab to help with research for professors and graduate students*
- Take part in the making of a student multimedia project
- **Discover** through research opportunities as part of the Outstanding Scholars program*
- Research student exchange and study abroad opportunities for middle years to gain a Global Perspective of Science*
- Join a club like the Physics Club, Science Society or Students Offering Support

Career



- Create a list of things that you enjoy, areas in which you excel, and your skills
- Meet with Career & Employment Services (CES) to develop a plan for your future years
- Consider taking an interest assessment to help you identify possible career paths
- Attend a CES workshop to learn how to find a summer or part-time job
- Become familiar with the mySuccess online job search tool
- Attend a CES resumé and cover letter workshop to get your resumé critiqued

Middle Years

- Take required courses and check in with academic advisor to make sure you are on the right path
- Look into completing an undergraduate research project in final year★
- Consider completing a physics degree with either medical physics or high technology
- Attend a weekly graduate seminar of interest
- Seek out internships and courses that offer field experience★
- Start taking courses required as pre-requisites for graduate/professional school
- Consider declaring a minor and/or specialization

- Join a professional association such as the Canadian Association of Physicists or American Physical Society
- **Apply** your knowledge through a teaching assistant position★
- Participate in the UWill Discover undergraduate research conference★
- Apply to co-op in fall of second year★
- Complete co-op work term I and II★
- Gain a Global Perspective of Science (GPS) through an international exchange or by studying abroad★
- Expand your skills by taking on a summer, part-time or volunteer position
- Gain valuable **Leadership** skills through roles within a club or society

- Research career fields and occupations
- Explore opportunities and meet employers through a job fair or employer information session
- Attend the Graduate and Professional Schools Fair to explore further educational opportunities
- Analyze the requirements for graduate or professional schools
- Make an appointment with Career & Employment Services to explore career options
- Create a LinkedIn profile and have it critiqued
- Take part in informational interviews through such sources as Ten Thousand Coffees

Final Year

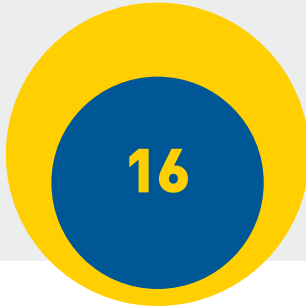
- Meet with faculty and academic advisor to review degree requirements
- Complete all required courses to fulfill degree audit
- Apply to graduate through MyUWindsor Portal
- Undertake a year-long undergraduate research thesis with faculty member★
- Consider completing degree in combination with a Computer Science, Chemistry, or Mathematics Minor or Double Major
- Take a specialized course such as Introduction to Medical Physics and/or Introduction to Medical Imaging
- **Apply** your knowledge through a field work, internship, or practicum course to optimize your senior experience★

- Complete co-op work term III in the field of Physics★
- Conduct research with faculty member★
- Be Engaged through Service Learning opportunities with Let's Talk Science and Science Rendezvous
- Become a tutor for Students Offering Support (SOS)
- Become a MySci Advisor to provide academic support and mentorship for first-year students
- Complete LEAD Medallion Scholars in two areas for Bronze, three areas for Silver, four areas for Gold in accordance with Leadership, Engagement, Application, Discover★
- Apply your knowledge for a summer research assistant position within a faculty member's lab★

- Consider applying to graduate or professional school. Be aware of early application deadlines
- Meet with Career & Employment Services to prepare such application documents as a resumé, cover letter, CV or personal statement
- Attend an Interview Skills Workshop and Job Search Tips Workshop
- Set up a mock interview for professional school or job applications
- Meet employers at the annual job fair in January
- Compose a portfolio of relevant academic and work experience

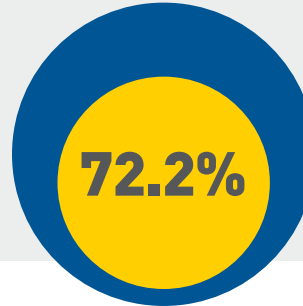
LIFE AFTER GRADUATION

2016



Number of University of Windsor graduates from Physics programs in 2016.

2013



Percentage of Physics graduates from Canadian universities who continue studying after a bachelor's degree. (National Graduates Study 2013)



COMMON INDUSTRIES FOR PHYSICS GRADUATES

- Academia
- Education: Curriculum design, teaching
- Electronics/electrical/aerospace manufacturing
- Energy industry/utilities
- Government: Research and policy development
- Industry: Consultation, product development/testing
- Meteorology/climatology
- Telecommunications
- Physical science industries

CAREER TRACKS*

- | | | | |
|---------------------|-------------------|---------------------|-----------------------|
| Actuary | Doctor | Lawyer | Research co-ordinator |
| Astronomer | Engineer | Medical physicist | Research scientist |
| Audiologist | Entrepreneur | Meteorologist | Robotics technician |
| CAD technician | Financial analyst | Oceanographer | Science journalist |
| Chemical physicist | Geophysicist | Optometrist | Software developer |
| Computer programmer | Hydrologist | Professor | Teacher |
| Dentist | Lab technician | Radiation therapist | X-Ray technician |

* Additional education and/or training required for some of the above careers.

CAREER-READINESS COMPETENCIES



Critical Thinking and Problem Solving: Using strategic and creative thinking to make decisions and evaluate solutions

- Learning, understanding, and interpreting information to apply knowledge to new situations
- Defining research problems and developing research models
- Applying new and/or unfamiliar information and technologies to diverse situations and settings



Teamwork and Collaboration: Working as a productive member of a group and collaborating with others to achieve set goals

- Overseeing contributions to a project, determining outcomes, planning details, delegating, and completing tasks
- Identifying one's ideal role and contributing to the collective through leading, teaching, and motivating others
- Leading and interacting with colleagues who reflect different backgrounds, learning styles, and approaches



Professionalism and Work Ethic: Demonstrating personal management practices and a high level of integrity and ethical behaviour

- Identifying priorities and preferable courses of action to execute necessary tasks
- Managing time, data, and resources to meet deadlines
- Seeing issues from a variety of vantage points pertaining to your work



Communication: Appropriate and effective articulation of ideas and information to a range of audiences

- Developing effective, precisely organized reports
- Communicating effectively and efficiently in technical writing to convey the message of a broader piece of work
- Establishing and communicating hypotheses



CAMPUS RESOURCES

- Visit **Leddy Library** and the **Writing Support Desk** on the main floor for help with academic assignments
- Improve study skills through the **Skills To Enhance Personal Success (STEPS)** program
- Discover ways to get involved on campus through the **Student Success and Leadership Centre**
- Explore mentorship opportunities through the **Connecting4Success (C4S)** and **Bounce Back** programs
- Apply to the **Volunteer Internship Program (VIP)** to get involved in the community
- Look into the **Work Study** program for on-campus employment opportunities
- Broaden your cultural awareness through the **International Student Centre** and **Student Exchange Office**
- Get assistance developing your career plan and job search skills from **Career & Employment Services**
- Consult with the **EPICentre** if you are interested in starting your own business
- Seek out assistance with academic accommodation from **Student Accessibility Services**
- Tend to your health and wellness with support from **Student Health Services, Lancer Recreation** and the **Student Counselling Centre**

Recruitment Office

Phone: 519-973-7014
Toll-Free: 1-800-864-2860
Email: info@uwindsor.ca

Department of Physics

Phone: 519-253-3000, Ext. 2647
Email: physics@uwindsor.ca

Career and Employment Services

Phone: 519-253-3000, Ext. 3895
Email: careerservices@uwindsor.ca
experience.uwindsor.ca



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